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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/799,621	03/15/2004	Kazuhiro Masuda	119108	8397
25944	7590	03/31/2006	EXAMINER	
OLIFF & BERRIDGE, PLC P.O. BOX 19928 ALEXANDRIA, VA 22320			STEVENSON, ANDRE C	
			ART UNIT	PAPER NUMBER
			2812	

DATE MAILED: 03/31/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/799,621

Applicant(s)

MASUDA, KAZUHIRO

Examiner

Andre' C. Stevenson

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 09 January 2006.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-3 is/are pending in the application.
- 4a) Of the above claim(s) 1 and 3 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 2 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☒ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>06/23/04, 03/15/04</u> . | 6) <input type="checkbox"/> Other: _____  |

***Detailed Action***

***Priority***

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

***Information Disclosure Statement***

The information disclosure statement (IDS) submitted on June 23, 2004 and March 15, 2004 was filed before the first action on the merits. The submission is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

***Election/Restrictions***

Applicant's election without traverse of Claim #2 in the reply filed on January 09, 2006 is acknowledged.

Claims #1 and 3 have been withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on January 09, 2006.

***Claim Objections***

Claim #2 is objected to because of the following informalities:

Claim #2, line #2, reads, "using the semiconductor device as defined in claim 1". This statement makes claim #2 dependent on the non-elected claim #1.

Appropriate correction is required.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claim #2 is rejected under 35 U.S.C. 102(e) as being unpatentable by Hanaoka et al.

(U.S. Pat. No.6,962,865 B2, Pat. Date 11/08/05, Filed Date 02/02/04, Divisional of 6,720,710, File Date 06/01/01).

Hanaoka shows, in figure 1-19 and corresponding text, with respect to **claim #2**, a method of manufacturing a three-dimensional stacking type semiconductor device, wherein the method comprises: a semiconductor device formation step which includes an electrode layer through-hole (**item #4**) formation step of forming a hole in the uppermost conductive layer (**item #2b**) coaxially with the through-hole in each of the conductive layers lower (**item #2a**) than the uppermost conductive layer (**fig. #3a-c and 2b; Column #11; Line 1-12**), and forming an electrode layer through-hole in the electrode layer by etching the insulating material (**item #6**) (**fig. #4a-c, 6c and 7a; Column #12; Line 5-7**), a step of forming a substrate through-hole connected with the electrode layer through-hole in the substrate, and a step of filling the electrode layer through-hole and the substrate through-hole with a conductive member (**Column #12; Line 8-20; Column # 12; Line 42-64**); and a semiconductor device stacking step of

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stacking a plurality of the semiconductor devices by using a conductive member of each of the semiconductor devices (**Column #6; Line 58-63**). The Examiner makes note that Hanaoka does not explicitly state filling the electrode through-hole. However, Hanaoka states in column #12, line 48 through 64, that the through-hole can be made to any size necessary, and the side walls can be linearly a-lined with the section through the center axis. The Examiner takes the position that this option will bring the two sides closer, and thus allow for the through hole to be filled. For this reason the Examiner takes the position that the rejection is proper.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Akagawa (U.S. Pat. No.6,964,887), Nemoto et al. (U.S. Pat. No.6,995,455 B2), Nemoto (U.S. Pat. No.6,943,056), Wada (Pub. No.2002/0025587), Bieck et al. (Pub. No.2005/0042786).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andre' Stevenson whose telephone number is (571) 272 1683. The examiner can normally be reached on Monday through Friday from 7:30 am to 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael S. Lebentritt, can be reached on (571) 272 1873. The fax phone number for the organization where this application or proceeding is assigned is (703) 308 7724.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308 0956. Also, the proceeding numbers can be used to fax information through the Right Fax system;

**(703) 872-9306**

Andre' Stevenson

03/16/06



**MICHAEL LEBENTRITT**  
SENIOR PATENT EXAMINER

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